



**PUSAT PENGAJIAN SISWAZAH**  
**(Centre For Graduate Studies)**  
**Universiti Utara Malaysia**

**PERAKUAN KERJA KERTAS PROJEK**  
**(Certificate of Project Paper)**

Saya, yang bertandatangan, memperakukan bahawa  
(I, the undersigned, certify that)

**ZAKARIA K.D.ALKAYYALI**

calon untuk Ijazah  
(candidate for the degree of) **MSc. (IT)**

telah mengemukakan kertas projek yang bertajuk  
(has presented his/her project paper of the following title)

**A PROTOTYPE OF WEB-BASED COMPUTER SKILLS TRAINING COURSE FOR  
AL QUDS OPEN UNIVERSITY (QOU)**

seperti yang tercatat di muka surat tajuk dan kulit kertas projek  
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan  
dan meliputi bidang ilmu dengan memuaskan.  
(that the project paper acceptable in form and content, and that a satisfactory  
knowledge of the filed is covered by the project paper).

Nama Penyelia Utama  
(Name of Main Supervisor): **ASSOC. PROF. DR. WAN ROZAINI SHEIK OSMAN**

Tandatangan  
(Signature)

: Rozaini

Tarikh  
(Date)

: 2 Okt 2006

**A Prototype of Web-Based  
Computer Skills Training Course for  
AlQuds Open University (QOU)**

**Zakaria Khali D. Al Kayyali**

Uniiverstiy Utara Malaysis

2006

**A Prototype of Web-Based  
Computer Skills Training Course for  
AlQuds Open University (QOU)**

**A Thesis submitted to the Faculty of Information Technology  
in partial fulfillment of the requirement for the degree  
Master of Science ( Information Technology)  
University Utara Malaysia**

**UUM**

**by  
Zakaria K. D. Al Kayyali  
2006**

## **Abstract**

E-Applications become the most important proverb in the modern electronic world, which depend on computer based system in many fields in the world. It help links people, systems and others resources making life easier and better.

The purpose of this project is to develop a prototype of Web-based Training system for Al Quds Open University (QOU). This prototype used the Microsoft VB.Net and Microsoft SQL Server as Database. This project is important in order to make the training tasks easier than current way and to allow the QOU staff attending training courses anytime anywhere.

## **ACKNOWLEDGEMENTS**

In the name of Allah,

On behalf of myself, and my kids my wife & children wish to acknowledge all the people who helped in the completion of this project: First Assoc. Prof. Dr. Wan Rozaini bt Sheik Osman and Dr. Faudziah Ahmad, who are my supervisors, for their ongoing optimism, guidance, and leadership and Mr. Yousef Sabah, Training Manager at Al Quds Open University, for providing suggestions, resources, and support, in this project. A very special thank you goes out to my mother and my brothers specially Mohammad, for their patience and understanding during this challenging time.

## **LIST OF TABLES**

Table 4-1 System Usefulness .....	49
Table 4-2 Information or Content Quality .....	50
Table 4-3 Interface Quality .....	51
Table 4-4 Overall satisfaction .....	51

## LIST OF FIGURES

3-1 Methodology Phases .....	17
3-2 Prototyping Process .....	19
4-1 System modules .....	24
4-2 The main screen .....	30
4-3 The login form .....	31
4-4 Error login .....	32
4-5 Admin login .....	33
4-6 Add trainer .....	34
4-7 Add trainer .....	35
4-8 Add training course .....	36
4-9 Select trainee .....	37
4-10 Trainer login .....	38
4-11 Upload material .....	39
4-12 login session .....	40
4-13 Sending email .....	41
4-14 Trainee login .....	42
4-15 Download material .....	43
4-16 Login session .....	44
4-17 Sending email .....	45
4-18 Login online quiz .....	45
4-19 Sending email .....	45
4-20 Usability evaluation .....	51

## **LIST OF ABBREVIATIONS**

<b>QOU</b>	Al Quds Open University
<b>EVW</b>	Exeter Virtual Worlds
<b>ECHOES</b>	Educational Hypermedia On-line System
<b>WWW</b>	World Wide Web
<b>WBT</b>	Web-Based Training
<b>FPGA</b>	Field Programmable Gate Array
<b>JTAG</b>	Joint Test Action Group
<b>ISD</b>	Instructional Systems Design
<b>ADDIE MODEL</b>	Analysis, Design, Development, Implementation, and Evaluation
<b>IT</b>	Information Technology
<b>APIS</b>	Application Programming Interfaces
<b>CSUQ</b>	Computer System Usability Questionnaire



## **TABLE OF CONTENTS**

<b>ABSTRACT .....</b>	<b>I</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>II</b>
 <b>CHAPTER 1 INTRODUCTION .....</b>	 <b>3</b>
<b>1.1. BACKGROUND OF THE STUDY .....</b>	<b>3</b>
<b>1.2. PROBLEM STATEMENT .....</b>	<b>4</b>
<b>1.3. RESEARCH OBJECTIVES .....</b>	<b>4</b>
<b>1.4. SCOPE .....</b>	<b>5</b>
<b>1.5. SIGNIFICANCE OF THE STUDY.....</b>	<b>5</b>
 <b>CHAPTER 2 LITERATURE REVIEW .....</b>	 <b>6</b>
<b>2.1. WEB-BASED TRAINING .....</b>	<b>6</b>
<b>2.2. BENEFITS AND LIMITATION OF WEB-BASED TRAINING .....</b>	<b>9</b>
<b>2.2.1. BENEFITS:.....</b>	<b>9</b>
<b>2.2.2. LIMITATIONS: .....</b>	<b>10</b>
<b>2.3. WEB-BASED TRAINING FIELDS.....</b>	<b>11</b>
<b>2.4. WHEN TO USE WEB-BASED TRAINING .....</b>	<b>13</b>
<b>2.5. DESIGN AND DEVELOPMENT OF WEB-BASED TRAINING: .....</b>	<b>13</b>
<b>2.6. SUMMARY .....</b>	<b>15</b>
 <b>CHAPTER 3 METHODOLOGY.....</b>	 <b>16</b>
 <b>3.1. PHASE ONE: INFORMATION GATHERING.....</b>	 <b>17</b>

<b>3.2. PHASE TWO: PROTOTYPE DEVELOPMENT .....</b>	<b>18</b>
<b>3.2.1 IDENTIFY THE USERS BASIC REQUIREMENTS.....</b>	<b>20</b>
<b>3.2.2 DESIGN A PROTOTYPE.....</b>	<b>20</b>
<b>3.2.3. DEVELOPMENT OF AN INITIAL PROTOTYPE .....</b>	<b>20</b>
<b>3.2.4. EXPERIMENTATION A PROTOTYPE.....</b>	<b>20</b>
<b>3.2.5. EVALUATE AS OPERATIONAL PROTOTYPE.....</b>	<b>21</b>
<b>3.3. PHASE THREE: PROTOTYPE TESTING .....</b>	<b>21</b>
 <b>CHAPTER 4 FINDINGS AND RESULTS.....</b>	 <b>22</b>
<b>4.1. PHASE ONE: INFORMATION GATHERING.....</b>	<b>22</b>
<b>4.2. PHASE TWO: PROTOTYPE DEVELOPMENT .....</b>	<b>23</b>
<b>4.2.1. IDENTIFY THE USERS BASIC REQUIREMENTS.....</b>	<b>23</b>
<b>4.2.2. DESIGN A PROTOTYPE.....</b>	<b>24</b>
<b>4.2.3. DEVELOPMENT OF AN INITIAL PROTOTYPE .....</b>	<b>27</b>
<b>4.2.4. EXPERIMENTATION A PROTOTYPE.....</b>	<b>47</b>
<b>4.2.5. EVALUATE AS OPERATIONAL PROTOTYPE.....</b>	<b>48</b>
<b>4.3. PHASE THREE: PROTOTYPE TESTING .....</b>	<b>48</b>
 <b>CHAPTER 5 CONCLUSION.....</b>	 <b>53</b>
<b>5.1. LIMITATION .....</b>	<b>53</b>
<b>5.2. FUTURE WORK .....</b>	<b>53</b>
<b>5.3. CONCLUSIONS .....</b>	<b>54</b>
<b>REFERENCES.....</b>	<b>55</b>
<b>APPENDIX</b>	

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1. Background of the study**

Internet technology makes the world as small as a village. An important of an Information System development, is the implementation stage. Training is a vital factor to ensure success of a system, for staff especially after the implementation of the new system. Online training allows employers to train large numbers of staff across locations, and training is important to organizations. Training as it is effort to modify or develop knowledge, skills and attitudes through learning experiences, to achieve effective performance in an activity or a range of activities (Zuhaidah, 2004).

The organizations are rapidly becoming aware that training their personnel is not an option, but an essential aspect to survive technological advancements and global competition (Rice and Robin, 2005).

This project is to develop a prototype of web-based training system for AlQuds Open University (QOU) that facilitate training environment. This will make the training tasks easier than the current way. QOU is a governmental university in Palestine; it has more than 20 branches in Palestine and three branches in other countries. All branches have academic staff and

The contents of  
the thesis is for  
internal user  
only

## References

Blake, C., Gibson, J.W. and Blackwell, C.W. (2003). Web-based training: *What supervisors need to know*. *Supervision*, 64(12), 3.

Dennis, A., Wixom, B. and Tegarden, D. (2005). *System Analyses And Design With UML Ver. 2.0 An Object-Oriented Approach Second Edition*

Chris B. and M. Lang (2001). A Survey of Multimedia and Web Development Techniques and Methodology Usage , 8 ,pp. 52-60.

Connolly, T.M., & Begg, C.E. (2002). *Database system: A practical approach to design, implementation and management* (3<sup>rd</sup> Ed.). USA: Addison-Wesley

DeLuca, R.J. ( 2002). Using the internet to achieve your workplace training objectives *Applied Occupational & Environmental Hygiene*, 17(12), 814

Driscoll, M. (1998). *Web-based training: Using technology to design adult learning experiences*. San Francisco, CA: Jossey-Bass Pfiffer .

Driscoll, M. and Thomson, R.(1997). The Web as a learning environment. Enabling Technologies: Infrastructure for Collaborative Enterprises, *Proceedings Sixth IEEE workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises*, , pp 333-339.

Grange, S.; Jones, G. and Bunker, T.(2000). Using Java to embed complex simulation media into surgical training environments. *Proceeding IEEE EMBS International Conference on Information Technology Applications in Biomedicine*, 2000 .pp190-196

Izurni, H., Murakoshi, H., Mori, H., Sakamaki, K., Hatano, Y., Shirai, T., Murayama, S. and Ugajin, T.( 2001). Proposal of the web-based training system for the experiment of the digital circuit. *Proceeding Industrial Electronics Society, 2001. IECON '01. The 27th Annual Conference of the IEEE* .pp 1766 – 1770.

Kruse, K. and Keil, J. (2000). Technology based training- the art and science of design, *Development and Delivery*. San Francisco, Ca.: Jossey-Bass Pfeiffer

Laudon ,K.C.,& Laudon,J.P. (2000).*Management information system: Organization and technology in network enterprise* (6th Ed). New Jersey:Prentice Hall.

Laudon ,K.C.,& Laudon,J.P. (2004).*Management information system: Managing the digital firm*. New Jersey: Prentice Hall

Lewis, J. R. (1995) IBM Computer Usability Satisfaction Questionnaires: Psychometric Evaluation and Instructions for Use. *International Journal of Human-Computer Interaction*, 7:1, 57-78

Microsoft Corporation (2005). Testing Methodologies. Retrieved June 20, 2006 from [http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnpag2/html/mtf\\_ch02.asp](http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnpag2/html/mtf_ch02.asp)

Minotti, J. and Giguere, P. (2003) . The Realities of Web-based Training, *The Journal*, 30, p411

Pasquarelli, A., de Stefani, F., O'Hare, G.M.P. and Murphy, A.J. (1999). ECHOES: educational hypermedia on-line system. *Proceeding IEEE International Conference on Multimedia Computing and Systems*, 1999. pp1114 – 1116

Rice C. C. and Robin B. (2005). Comparing the comprehension of employees at Hewlett-Packard who have participated in interactive web-based training and the comprehension of employees at Hewlett-Packard who have participated in static web-based training

Zuhaidah Salleh (2004). An Assessment of training practices in SMEs in Kedah And Perlis. Master thesis, UUM